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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,095	01/26/2001	William Necka	00,1281	7964

20306 7590 06/04/2004

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EXAMINER

MOORE, IAN N

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 06/04/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,095

Applicant(s)

NECKA ET AL.

Examiner

Ian N Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-12, 14-17, 20-26 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 7-9, 13, 18, 19 and 27-29 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4,5,6</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 6,10,11,15,17,21,24 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (U.S. 6,073,178) in view of Sitsanizadeh (U.S. 6,452,925).

Regarding claims 1 and 24, Wong'178 discloses a data-over-cable system (see FIG. 1, Computer network 100), a method for proxying first protocol network services (see FIG. 1, DHCP network services; see col. 5, lines 36-51), the method comprising:

creating a database record (see FIG. 2, Router/relay-agent 202's Memory 206) comprising identification data of a second network device (see FIG. 1, Client 102 or see FIG. 6, Client context 602) and identification data of a first protocol network server (see FIG. 1, DHCP Server 114 or see FIG. 6, DHCP context 606), selected by the second network device (see col. 7, lines 49-60; note that router/agent stores the extracted trusted identifier associated with a DHCP server (i.e. first protocol server ID) and the temporary IP address from the server);

intercepting a first protocol message from the first protocol network server to the second network device (see FIG. 6, step 630; see col. 40-51; note that a router

intercepts/seizes the DHCP protocol message from the DHCP server to the client);

wherein the first protocol message (see FIG. 5, DHCP message 500) comprises a routable network address for the second network device (see FIG. 5, yiaddr) and a lease time interval for the routable network address (see FIG. 5, secs, i.e. seconds elapsed for yiaddr); see col. 7, lines 36-40; col. 5, lines 52-65;

modifying the first protocol message intercepted on the first network device (see FIG. 6, step 630; see col. 40-51; note that after intercepting/seizing the DHCP protocol message, the router modifies the message/packet by extracting addresses); and

sending the modified first protocol message from the first network device to the second network device (see FIG. 6, step 632, forward the modified packet/message to the client 602; see col. 7, line 60-63).

Wong'178 does not explicitly disclose a first protocol offer message (see Sitanizadeh'925 FIG. 9, step 914, DHCPOFFER message; see Sitanizadeh'925 col. 13, lines 65-67) from the first protocol network server (see Sitanizadeh'925 FIG. DHCP 814) to the second network device (see Sitanizadeh'925 FIG. 8B, PC/Client 812); see col. 12, lines 35-51;

wherein the first protocol offer message (see Sitanizadeh'925 FIG. 8A, DHCP offer message) comprises a routable network address for the second network device (see Sitanizadeh'925 FIG. 8A, Your IP address, assigned IP address of the client/PC) and a lease time interval for the routable network address (see Sitanizadeh'925 FIG. 8A, Seconds, for client and its routable network address);

modifying the lease time interval in the first protocol offer message (see Sitanizadeh'925 FIG. 9, steps 920, 924 and 922; see col. 14, lines 1-25; note that the lease time interval defined/set in the offer message is modified when it reaches 50%, 87.5 %, or 100% of expiration of time).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the purpose of providing an DHCP offer message modification mechanism based upon the lease time interval, as taught by Sitanizadeh'925, since Sitanizadeh'925 states the advantages/benefits at col. 14, lines 17-25, that it would provide the user a capability to set/define its own lease time before/during the expiration of time interval. The motivation being that by providing and redefining the offer time interval, it will increase the network security and the user satisfaction since the user can modify the lease time according to its needs.

Regarding claims 2, 15, 21 and 33, Wong'178 discloses a computer readable medium having stored (see FIG. 2, Memory 206) therein instructions for causing a central processing unit (see FIG. 2, Processor 204 and router process 214 of the router 204) to execute the method (see FIG. 6-8, Methods); see col. 4, lines 61-67.

Regarding claim 3, Wong'178 discloses Dynamic Host Configuration network services (see FIG. 1, DHCP network services; see col. 5, lines 36-51).

Regarding claims 6, 11, and 17, Sitanizadeh'925 discloses the first protocol offer message comprises a Dynamic Host Configuration Protocol Offer message (see FIG. 9, step 914; DHCP OFFER packet);

and the first protocol request message comprises a Dynamic Host Configuration Protocol Request message (see FIG. 9, step 918, DHCP REQUEST packet).

In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the same purpose as described above in claim 1 and 14.

Regarding claim 10, Wong'178 discloses generating a first protocol request message on the first network device using the identification data of the second network (see FIG. 6, step 622 and 624, note that a DHCP REQUEST packet is generated by the client 602 and send it to the router 604. A router then regenerates a DHCP REQUEST packet which used the client 602 address is received at the router; see col. 7, lines 20-26;

the first protocol request message (see FIG. 5, DHCP message 500) comprising a lease request (see FIG. 5, ciaddr) for the routable network address associated with the second network device (see FIG. 5, yiaddr); see col. 7, lines 36-40; col. 5, lines 52-65; and

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sending the first protocol request message to the first protocol network server prior to an end of the lease time interval (see FIG. 6, step 624 and 626; see col. 7, lines 25-30; note that DHCP request packet is send to the DHCP server 606 before the lease time interval).

Sitanizadeh'925 discloses the first protocol request message (see Sitanizadeh'925 FIG. 8A, DHCP message) comprising a lease renewal request (see FIG. 9, Renew 922) for the routable network address (see Sitanizadeh'925 FIG. 8A, Your IP address) associated with the second network device; (see Sitanizadeh'925 col. 12, lines 35-51 and see col. 14, lines 4-25; a leased renewal request for an assigned address is send when it reaches 50% expiration of time);

sending the first protocol request message to the first protocol network server (see Sitanizadeh'925 FIG. 8B, PC/client 812 sending DHCPREQUEST message to DHCP 814 server) prior to an end of the lease time interval specified in the first protocol offer message (see Sitanizadeh'925 FIG. 9, Renew 922 at 50% expiration of time in order to bound 920; thus, it is clear that the lease is renewed before the end of the lease time interval specified in the offer).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the same purpose as described above in claim 1.

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2. Claim 4, 5, 14, 16, 23, 26, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong'178 and Sitanizadeh'925, and further in view of Massarani (U.S. 6,393,484).

Regarding claim 14, Wong'178 discloses a data-over-cable system (see FIG. 1, Computer network 100), a method for proxying first protocol network services, the method comprising:

creating a database record (see FIG. 2, Router/relay-agent 202's Memory 206) comprising identification data of a second network device (see FIG. 1, Client 102 or see FIG. 6, Client context 602) and identification data of a first protocol network server (see FIG. 1, DHCP Server 114 or see FIG. 6, DHCP context 606), selected by the second network device (see col. 7, lines 49-60; note that router/agent stores the extracted trusted identifier associated with a DHCP server (i.e. first protocol server ID) and the temporary IP address from the server);

intercepting a first protocol message from the first protocol network server to the second network device (see FIG. 6, step 630; see col. 40-51; note that a router intercepts/seizes the DHCP protocol message from the DHCP server to the client);

wherein the first protocol message (see FIG. 5, DHCP message 500) comprises a routable network address for the second network device (see FIG. 5, yiaddr) and a lease time interval for the routable network address (see FIG. 5, secs, i.e. seconds elapsed for yiaddr); see col. 7, lines 36-40; col. 5, lines 52-65;

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modifying the first protocol message intercepted on the first network device (see FIG. 6, step 630; see col. 40-51; note that after intercepting/seizing the DHCP protocol message, the router modifies the message/packet by extracting addresses); and

sending the modified first protocol message from the first network device to the second network device (see FIG. 6, step 632, forward the modified packet/message to the client 602; see col. 7, line 60-63);

generating a first protocol request message on the first network device using the identification data of the second network (see FIG. 6, step 622 and 624, note that a DHCPREQUEST packet is generated by the client 602 and send it to the router 604. A router then regenerates a DHCPREQUEST packet which used the client 602 address is received at the router; see col. 7, lines 20-26;

the first protocol request message (see FIG. 5, DHCP message 500) comprising a lease request (see FIG. 5, ciaddr) for the routable network address associated with the second network device (see FIG. 5, yiaddr); see col. 7, lines 36-40; col. 5, lines 52-65; and

sending the first protocol request message to the first protocol network server prior to an end of the lease time interval (see FIG. 6, step 624 and 626; see col. 7, lines 25-30; note that DHCP request packet is send to the DHCP server 606 before the lease time interval).

Wong'178 does not explicitly disclose a first protocol offer message (see Sitanizadeh'925 FIG. 9, step 914, DHCP OFFER message; col. 13, lines 65-67) from the first protocol network server (see Sitanizadeh'925 FIG. DHCP 814) to the

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second network device (see **Sitanizadeh'925 FIG. 8B, PC/Client 812**); see col. 12, lines 35-51;

wherein the first protocol offer message (see **Sitanizadeh'925 FIG. 8A, DHCP offer message**) comprises a routable network address for the second network device (see **Sitanizadeh'925 FIG. 8A, Your IP address, assigned IP address of the client/PC**) and a lease time interval for the routable network address (see **Sitanizadeh'925 FIG. 8A, Seconds, for client and its routable network address**);

modifying the lease time interval in the first protocol offer message (see **Sitanizadeh'925 FIG. 9, steps 920, 924 and 922**; see col. 14, lines 1-25; note that the lease time interval defined/set in the offer message is modified when it reaches 50%, 87.5 % , or 100% of expiration of time),

the first protocol request message (see **Sitanizadeh'925 FIG. 8A, DHCP message**) comprising a lease renewal request (see **FIG. 9, Renew 922**) for the routable network address (see **FIG. 8A, Your IP address**) associated with the second network device; (see col. 12, lines 35-51 and see col. 14, lines 4-25; a leased renewal request for an assigned address is send when it reaches 50% expiration of time);

sending the first protocol request message to the first protocol network server (see **FIG. 8B, PC/client 812 sending DHCPREQUEST message to DHCP 814 server**) prior to an end of the lease time interval specified in the first protocol offer message (see **FIG. 9, Renew 922 at 50% expiration of time in order to bound 920**; thus, it is clear that the lease is renewed before the end of the lease time interval specified in the offer).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the purpose of providing an DHCP offer message modification mechanism based upon the lease time interval, as taught by Sitanizadeh'925, since Sitanizadeh'925 states the advantages/benefits at col. 14, lines 17-25, that it would provide the user a capability to set/define its own lease time before/during the expiration of time interval. The motivation being that by providing and redefining the offer time interval, it will increase the network security and the user satisfaction since the user can modify the lease time according to its needs.

Neither Wong'178 nor Sitanizadeh'925 explicitly discloses wherein the time lease interval is modified to shorter lease time interval (see Massarani'484, see FIG. 4 step 420; see col. 7, lines 1-11; note that DHCP lease times is modified to shorten DHCP lease time to 60 seconds from predefined typical 10 minutes).

However, the above-mentioned claimed limitations are taught by Massarani'484. In view of this, having the combined system of Wong'178 and Sitanizadeh'925, then given the teaching of Massarani'484, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Wong'178 and Sitanizadeh'925, for the purpose of providing a shorter DHCP lease time for verifying the authentication of the client/PC, as taught by Massarani'484, since Massarani'484 states the advantages/benefits at col. 3, lines 10-18 that it would prevent unauthorized devices and users from obtaining

network services in a dynamic user address environment. The motivation being that by reducing the lease time until the user/device is properly authenticated, it can prevent from malicious users/devices utilizing the addresses.

Regarding claim 4 and 26, the combined system of Wong'178 and Sitanizadeh'925 discloses the first network device stores and the modified message in the database record associated with the second network device as described above in claims 1 and 24. Sitanizadeh'925 discloses the lease time interval received in the first protocol offer message as described above in claims 1 and 24. Thus, the combined system of Wong'178 and Sitanizadeh'925 the first network device stores the lease time interval received in the first protocol offer message and the modified message in the database record associated with the second network device.

Neither Wong'178 nor Sitanizadeh'925 discloses modifying lease time interval in the data base record associated with the second network device (see Massarani'484, see FIG. 4 step 420; see col. 7, lines 1-11; note that DHCP lease times is modified to shorten DHCP lease time to 60 seconds from predefined typical 10 minutes).

However, the above-mentioned claimed limitations are taught by Massarani'484. In view of this, having the combined system of Wong'178 and Sitanizadeh'925, then given the teaching of Massarani'484, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Wong'178 and Sitanizadeh'925, for the same purpose as described above in claim 14.

Regarding claim 5, 16, 23, and 30, Wong'178 discloses wherein the first network device comprises a router/agent (see FIG. 1, Router 106) and cable modem (see FIG. 1, a cable modem 104), the second network device comprises a customer premise equipment entity (see FIG. 1, PC 102) and the first protocol network server comprises a Dynamic Host Configuration Protocol server (see FIG. 1, DHCP server 114). Note that Wong'178 discloses that the first network device comprises a router/agent and the cable modem. Wong'178 also suggests that both router and the cable modem can both supply by the same supplier, and Wong'178 suggests that other topologies and technologies can be used (see col. 4, lines 52-61). Thus, it is obvious for one ordinary skill in art to the combined the functionality of a router and cable modem as a combined system.

In view of this, having the combined system of Wong'178, Sitanizadeh'925, and Massarani'484, then given the teaching of well established teaching in art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Wong'178, Sitanizadeh'925, and Massarani'484, for the purpose of providing a combined system of cable modem and the agent/router, as taught by well established teaching in art. The motivation being that by combing the device into one, it can save cost and space for a user and the service provider.

Regarding claim 32, Wong'178 discloses a data-over-cable system (see FIG. 1, Computer network 100), a method for proxying DHCP network services, the method comprising:

creating a database record (see FIG. 2, Router/relay-agent 202's Memory 206) comprising identification data of a second network device (see FIG. 1, Client 102 or see FIG. 6, Client context 602) and identification data of a first protocol network server (see FIG. 1, DHCP Server 114 or see FIG. 6, DHCP context 606), selected by the second network device (see col. 7, lines 49-60; note that router/agent stores the extracted trusted identifier associated with a DHCP server (i.e. first protocol server ID) and the temporary IP address from the server);

intercepting a first protocol message from the DHCP server selected by the second network device (see FIG. 6, step 630; see col. 40-51; note that a router intercepts/seizes the DHCP protocol message from the selected DHCP server to the client);

wherein the first protocol message (see FIG. 5, DHCP message 500) comprises a routable network address for the second network device (see FIG. 5, yiaddr) and a lease time interval for the routable network address (see FIG. 5, secs, i.e. seconds elapsed for yiaddr); see col. 7, lines 36-40; col. 5, lines 52-65;

modifying the first protocol message intercepted on the first network device prior to sending the first protocol message to the second network device (see FIG. 6, step 630; see col. 40-51; note that after intercepting/seizing the DHCP protocol

message, the router modifies the message/packet by extracting addresses prior to sending to the client); and

generating a lease request message on the first network device using the identification data of the second network and identification of the DHCP server (see FIG. 6, step 622 and 624, note that a DHCPREQUEST packet is generated by the client 602 and send it to the router 604. A router then regenerates a DHCPREQUEST packet with the client 602 and DHCP server addresses are received at the router; see col. 7, lines 20-26;

sending the lease request message to the DHCP server prior to an expiration of the lease time interval associated with routable network address (see FIG. 6, step 624 and 626; see col. 7, lines 25-30; note that DHCP request packet is send to the DHCP server 606 before the lease time interval associated with yaadr address).

Wong'178 does not explicitly disclose a first protocol offer message (see Sitanizadeh'925 FIG. 9, step 914, DHCP OFFER message; see Sitanizadeh'925 col. 13, lines 65-67) from the first protocol network server (see Sitanizadeh'925 FIG. DHCP 814) to the second network device (see Sitanizadeh'925 FIG. 8B, PC/Client 812); see col. 12, lines 35-51;

wherein the first protocol offer message (see Sitanizadeh'925 FIG. 8A, DHCP offer message) comprises a routable network address for the second network device (see Sitanizadeh'925 FIG. 8A, Your IP address, assigned IP address of the client/PC) and a lease time interval for the routable network address (see Sitanizadeh'925 FIG. 8A, Seconds, for client and its routable network address);

modifying the lease time interval in the first protocol offer message (see Sitanizadeh'925 FIG. 9, steps 920, 924 and 922; see col. 14, lines 1-25; note that the lease time interval defined/set in the offer message is modified when it reaches 50%, 87.5 %, or 100% of expiration of time);

wherein the first protocol offer message comprises a routable network address for the second network device (see Sitanizadeh'925 FIG. 8A, Your IP address) and a renewal lease time interval associated with the routable network address (see Sitanizadeh'925 FIG. 9, Renew 922; see col. 12, lines 35-51 and see col. 14, lines 4-25; thus, it is clear that the offer packet/message contains the Your IP address and the renewal time interval, (i.e. seconds));

generating a lease renewal request message using the identification of second network device and identification of the DHCP server (see Sitanizadeh'925 FIG. 9, Renew 922; see col. 12, lines 35-51 and see col. 14, lines 4-25; when the time reach 50% of expiration, the system generates/sends a leased renewal request for an assigned address);

sending the lease renewal request message to the DHCP server (see Sitanizadeh'925 FIG. 8B, PC/client 812 sending lease renew 922 DHCPREQUEST packet to DHCP 814 server to bound 920 the lease) prior to an expiration of the renewal lease time interval associated with the routable network address (see Sitanizadeh'925 FIG. 9, Renew 922 at 50% expiration of time in order to bound 920; thus, it is clear that the lease is renewed before the end of the lease time interval).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the purpose of providing an DHCP offer message modification mechanism based upon the lease time interval, as taught by Sitanizadeh'925, since Sitanizadeh'925 states the advantages/benefits at col. 14, lines 17-25, that it would provide the user a capability to set/define its own lease time before/during the **expiration of time** interval. The motivation being that by providing and redefining the offer time interval, it will increase the network security and the user satisfaction since the user can modify the lease time according to its needs.

Neither Wong'178 nor Sitanizadeh'925 explicitly discloses modifying the least time intervals on the first network device (see Massarani'484, see FIG. 4 step 420; see col. 7, lines 1-11; note that **DHCP lease times is modified to shorten DHCP lease time to 60 seconds from predefined typical 10 minutes**).

However, the above-mentioned claimed limitations are taught by Massarani'484. In view of this, having the combined system of Wong'178 and Sitanizadeh'925, then given the teaching of Massarani'484, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Wong'178 and Sitanizadeh'925, for the purpose of providing a shorter DHCP lease time for verifying the authentication of the client/PC, as taught by Massarani'484, since Massarani'484 states the advantages/benefits at col. 3, lines 10-18 that it would prevent unauthorized devices and users from obtaining

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network services in a dynamic user address environment. The motivation being that by reducing the lease time until the user/device is properly authenticated, it can prevent from malicious users/devices utilizing the addresses.

3. Claim 12,20,22,25 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong'178 and Sitanizadeh'925, and further in view of Waldo'505 (US 2003/0093505A1).

Regarding claim 20, Wong'178 discloses a data-over-cable system (see FIG. 1, Computer network 100), a method for proxying first protocol network services, the method comprising:

creating a database record (see FIG. 2, Router/relay-agent 202's Memory 206) comprising identification data of a second network device (see FIG. 1, Client 102 or see FIG. 6, Client context 602) and identification data of a first protocol network server (see FIG. 1, DHCP Server 114 or see FIG. 6, DHCP context 606), selected by the second network device (see col. 7, lines 49-60; note that router/agent stores the extracted trusted identifier associated with a DHCP server (i.e. first protocol server ID) and the temporary IP address from the server);

intercepting a first protocol message from the first protocol network server to the second network device (see FIG. 6, step 630; see col. 40-51; note that a router intercepts/seizes the DHCP protocol message from the DHCP server to the client);

wherein the first protocol message (see FIG. 5, DHCP message 500) comprises a routable network address for the second network device (see FIG. 5, yiaddr) and a lease time interval for the routable network address (see FIG. 5, secs, i.e. seconds elapsed for yiaddr); see col. 7, lines 36-40; col. 5, lines 52-65;

storing the routable network address in the database record (see FIG. 2, Router/relay-agent 202's Memory 206; see col. 7, lines 49-60; note that router/agent stores the extracted trusted identifier associated with a DHCP server (i.e. first protocol server ID) and the temporary IP address from the server);

sending the first protocol message to the first protocol network server prior to an expiration of the lease time interval (see FIG. 6, step 624 and 626; see col. 7, lines 25-30; note that DHCP request packet is send to the DHCP server 606 before the lease time interval).

Wong'178 does not explicitly disclose a first protocol offer message (see Sitanizadeh'925 FIG. 9, step 914, DHCPOFFER message; col. 13, lines 65-67) from the first protocol network server (see Sitanizadeh'925 FIG. DHCP 814) to the second network device (see Sitanizadeh'925 FIG. 8B, PC/Client 812); see col. 12, lines 35-51;

wherein the first protocol offer message (see Sitanizadeh'925 FIG. 8A, DHCP offer message) comprises a routable network address for the second network device (see Sitanizadeh'925 FIG. 8A, Your IP address, assigned IP address of the client/PC) and a lease time interval for the routable network address (see Sitanizadeh'925 FIG. 8A, Seconds, for client and its routable network address);

determining whether to renew a lease (see Sitanizadeh'925 FIG. 9, Renew 922) of the routable network address (see Sitanizadeh'925 FIG. 8A, Your IP address) using the lease time interval (see Sitanizadeh'925 col. 12, lines 35-51 and see col. 14, lines 4-25; when the time reach 50% of expiration, the system determines and sends a leased renewal request for an assigned address).

renewing the lease of the routable network address associated with the second network device (see Sitanizadeh'925 FIG. 8B, PC/client 812 sending lease renew 922 DHCPREQUEST packet to DHCP 814 server to bound 920 the lease) prior to an expatriation of the lease time interval (see Sitanizadeh'925 FIG. 9, Renew 922 at 50% expiration of time in order to bound 920; thus, it is clear that the lease is renewed before the end of the lease time interval).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the purpose of providing an DHCP offer message modification mechanism based upon the lease time interval, as taught by Sitanizadeh'925, since Sitanizadeh'925 states the advantages/benefits at col. 14, lines 17-25, that it would provide the user a capability to set/define its own lease time before/during the expiration of leased time interval. The motivation being that by providing and redefining the offer time interval, it will increase the network security and the user satisfaction since the user can modify the lease time according to its needs.

Neither Wong'178 nor Sitanizadeh'925 explicitly discloses the first network device stores the lease time interval; determining whether the second network device is inactive; determine on the first network using lease time interval stored in the database record; and renewing from the network device.

However, the above-mentioned claimed limitations are taught by Waldo'505. In particular, Waldo'505 teaches the first network device (see FIG. 9, Lease Manager 922) stores the lease time interval (see FIG. 9, Memory 992; see page 9, paragraph 143-144, 147; note that in order for a lease manager to perform on behalf of the client, it must stores the lease time interval of the client);

determining whether the second network device (see FIG. 9, Client 920) is inactive if so (see page 9, paragraph 143; note that the lease manager determine if the client is inactive and if it is);

determining on the first network using lease time interval stored in the database record (see page 9, paragraph 143, 147; the lease manager determine the lease expiration time of the client according the stored contract/lease); and

renewing from the network device prior to an expiration of the lease time interval stored in the database record (see page 9, paragraph 143, 147; the lease manager renew the lease between the client 920 and a network services 924 on the behalf of the client 920 prior of the lease expiration time).

In view of this, having the combined system of Wong'178 and Sitanizadeh'925, then given the teaching of Waldo'505, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Wong'178 and Sitanizadeh'925, for the purpose of providing the

lease manager process the lease between the client and the network services when the client is inactive, as taught by Waldo'505, since Waldo'505 states the advantages/benefits at page 9, paragraph 143,147 that it would provide a capability to notify a client when the lease is near expired and perform the leases renewable on behalf of the client when the client is inactive. The motivation being that by storing the client lease time and profile in the lease manager, it can enhance the continuous and interrupted lease time between the client and a network services whether the client is active or inactive.

Regarding claim 12, the combined system of Wong'178 and Sitanizadeh'925 discloses the first network device uses the routable network address of the second network device for forwarding and routing as described above in claims 1.

Neither Wong'178 nor Sitanizadeh'925 discloses determining whether the second network device (see Waldo'505 FIG. 9, Client 920) is not using the routable network address, if so (see Waldo'505 page 9, paragraph 143; note that the lease manager determine if the client is inactive (i.e. not using the address) and if it is);

using the routable network address of second network device (see Waldo'505 page 9, paragraph 143, 147; the lease manager use client 920 address in order to renew the lease prior of the lease expiration time).

However, the above-mentioned claimed limitations are taught by Waldo'505. In view of this, having the combined system of Wong'178 and Sitanizadeh'925, then given the teaching of Waldo'505, it would have been obvious to one having ordinary

skill in the art at the time the invention was made to modify the combined system of Wong'178 and Sitanizadeh'925, for the same purpose as described in claim 20.

Regarding claim 22, the combined system of Wong'178, Sitanizadeh'925 and Waldo'505 discloses renewing the lease of the routable network address associated with the second network device and storing lease time interval in the database record as described above in claim 20.

Wong'178 further discloses generating a first protocol request message (see FIG. 5, DHCP message 500) on the first network device using the identification data of the second network (see FIG. 6, step 622 and 624, note that a DHCPREQUEST packet is generated by the client 602 and send it to the router 604. A router then regenerates a DHCPREQUEST packet which used the client 602 address is received at the router; see col. 7, lines 20-26) and the identification of the server (see FIG. 5, giaddr); see col. 7, lines 36-40; col. 5, lines 52-65;

sending the first protocol request message to the first protocol network server prior to an end of the lease time interval (see FIG. 6, step 624 and 626; see col. 7, lines 25-30; note that DHCP request packet is send to the DHCP server 606 before the lease time interval).

Wong'178 does not explicitly disclose the first protocol request message (see Sitanizadeh'925 FIG. 8A, DHCP message) to the first protocol network server (see Sitanizadeh'925 FIG. 8B, PC/client 812 sending DHCPREQUEST message to DHCP 814 server) prior to expiration of lease time interval (see Sitanizadeh'925 FIG. 9, Renew 922 at 50% expiration of time in order to bound 920; thus, it is

clear that the lease is renewed before the end of the lease time interval specified in the offer).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the purpose of providing an DHCP offer message modification mechanism based upon the lease time interval, as taught by Sitanizadeh'925, since Sitanizadeh'925 states the advantages/benefits at col. 14, lines 17-25, that it would provide the user a capability to set/define its own lease time before/during the expiration of time interval. The motivation being that by providing and redefining the offer time interval, it will increase the network security and the user satisfaction since the user can modify the lease time according to its needs.

Regarding claim 25, Wong'178 discloses wherein the first network device uses the identification data associated with the second network device (see FIG. 6, step 622 and 624, note that a DHCPREQUEST packet is generated by the client 602 and send it to the router 604. A router then regenerates a DHCPREQUEST packet which used the client 602 address is received at the router; see col. 7, lines 20-26) to generate a first protocol lease request message (see FIG. 5, DHCP message 500) see col. 7, lines 36-40; col. 5, lines 52-65;

sending the first protocol request message to the first protocol network server prior to an end of the lease time interval (see FIG. 6, step 624 and 626; see col. 7,

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lines 25-30; note that DHCP request packet is send to the DHCP server 606 before the lease time interval).

Wong'178 does not explicitly a first protocol lease renewal request message (see Sitanizadeh'925 FIG. 9, Renew 922) for the routable network address (see Sitanizadeh'925 FIG. 8A, Your IP address) associated with the second network device; (see Sitanizadeh'925 col. 12, lines 35-51 and see col. 14, lines 4-25; a leased renewal request for an assigned address is send when it reaches 50% expiration of time); and

sending the first protocol lease renewal request message to the first protocol network server (see Sitanizadeh'925 FIG. 8B, PC/client 812 sending DHCPREQUEST message to DHCP 814 server) prior to an end of the lease time interval specified in the first protocol offer message (see Sitanizadeh'925 FIG. 9, Renew 922 at 50% expiration of time in order to bound 920; thus, it is clear that the lease is renewed before the end of the lease time interval specified in the offer).

However, the above-mentioned claimed limitations are taught by Sitanizadeh'925. In view of this, having the system of Wong'178 and then given the teaching of Sitanizadeh'925, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Wong'178, for the purpose of providing an DHCP offer message modification mechanism based upon the lease time interval, as taught by Sitanizadeh'925, since Sitanizadeh'925 states the advantages/benefits at col. 14, lines 17-25, that it would provide the user a capability to set/define its own lease time before/during the expiration of time

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interval. The motivation being that by providing and redefining the offer time interval, it will increase the network security and the user satisfaction since the user can modify the lease time according to its needs.

Regarding claim 31, Wong'178 discloses Dynamic Host Configuration Protocol messages (see **FIG. 6, DHCP network messages; see col. 5, lines 36-51**).

Allowable Subject Matter

4. Claims 7-9, 13, 18, 19, 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 703-605-1531. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on 703-308-7828. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM
5/28/04



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